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Berkeley, California

STATISTICAL ANALYSIS OF THE ANNUAL AVERAGE F.O.B. PRICES  
OF CALIFORNIA CANNED APRICOTS, 1926-27 to 1936-37

by

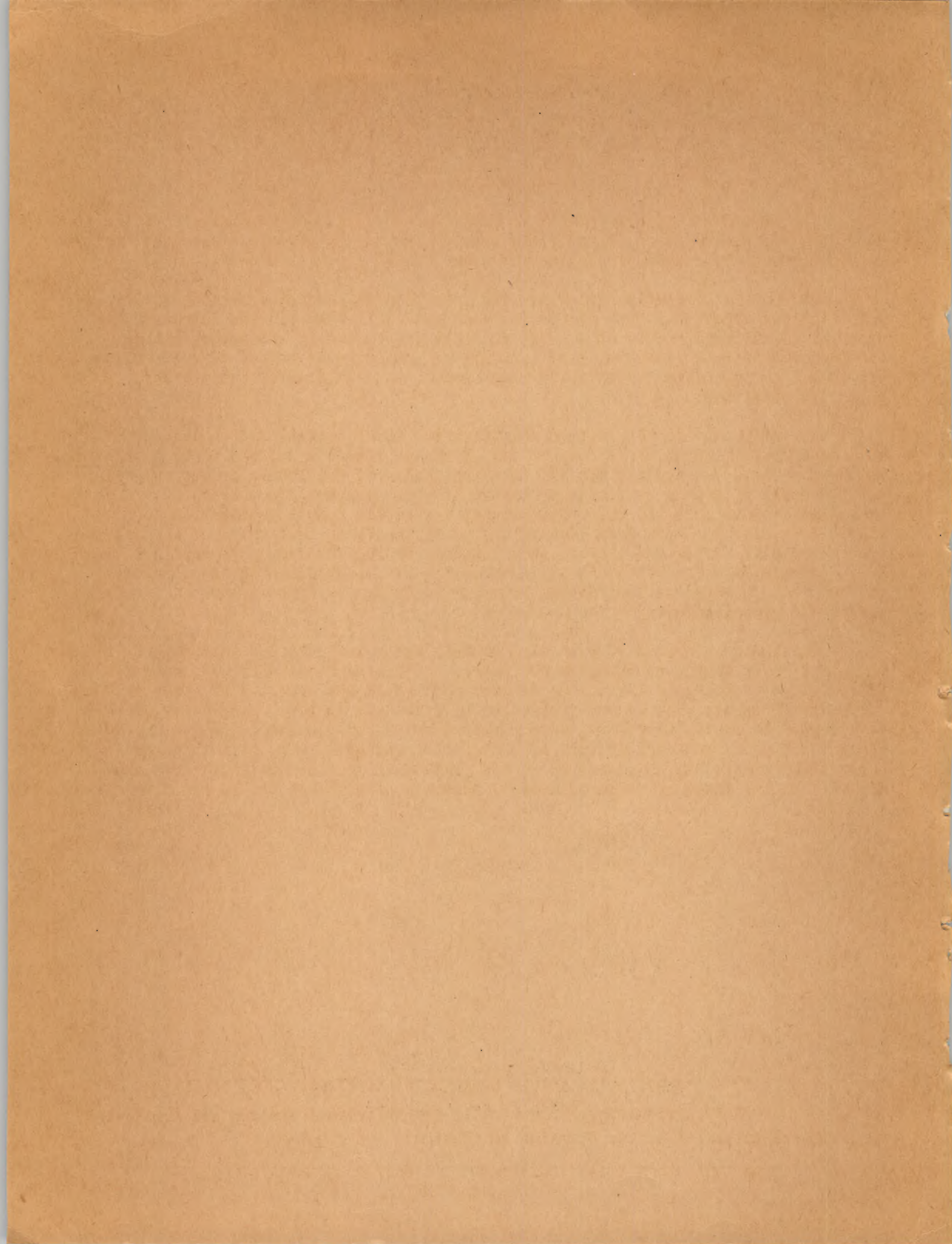
H. R. Wellman

June, 1937

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STATISTICAL ANALYSIS OF THE ANNUAL AVERAGE F.O.B. PRICES  
OF CALIFORNIA CANNED APRICOTS, 1926-27 to 1936-37

H. R. Wellman 1/

The purpose of this report is to present the results of an analysis of the major factors which have influenced the annual average f.o.b. prices received for canned apricots by canners in California from 1926-27 through 1936-37.

It should be clearly recognized that the results presented herein explain only what has occurred. They do not forecast what will occur in the future. The analysis is intended merely as a guide to those interested in estimating either the probable price at which a given quantity of canned apricots can be sold or the probable quantity of canned apricots which can be sold at a given price under specified conditions.

In this analysis the average relationships which prevailed from 1926-27 through 1936-37 between the f.o.b. prices of canned apricots and two factors were measured. These two factors are (1) total shipments of California canned apricots, and (2) index of prices of competing canned fruits. It should not be assumed that these two factors were the only ones which affected the annual average f.o.b. prices of canned apricots from 1926-27 through 1936-37, or that they are the only ones which will affect the average f.o.b. prices during the coming years. Neither is it certain that the relationships between the f.o.b. prices of canned apricots and the factors measured will be the same in the future as they were on the average during the period covered by the analysis.

The index of prices of competing canned fruits reflects not only changes in the supplies of canned peaches, canned pears, and canned pineapples from year to year, but in addition it takes into account changes in the supplies of other products which compete with canned fruits and also changes in the buying power of consumers. It would, therefore, be a duplication to include these factors in the analysis after having already used an index which reflects them. For reference purposes, however, the shipments of canned peaches, canned pears, and canned pineapples, and the index of urban consumers' income in the United States are given in table 5.

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1/ Associate Agricultural Economist in the Experiment Station and Associate Agricultural Economist on the Giannini Foundation.

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STATISTICAL ANALYSIS OF THE ANNUAL AVERAGE F.O.B. PRICES  
OF CALIFORNIA CANNED APRICOTS, 1928-29 to 1936-37

H. R. Wellman

The purpose of this report is to present the results of an analysis of the major factors which have influenced the annual average f.o.b. prices received for canned apricots by canners in California from 1928-29 through 1936-37.

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In this analysis the average relationships which prevailed from 1928-29 through 1936-37 between the f.o.b. prices of canned apricots and two factors were measured. These two factors are (1) total shipments of California canned apricots and (2) index of prices of competing canned fruits. It should not be assumed that these two factors were the only ones which affected the annual average f.o.b. prices of canned apricots from 1928-29 through 1936-37, or that they are the only ones which will affect the average f.o.b. prices during the coming years. Neither is it certain that the relationship between the f.o.b. prices of canned apricots and the factors measured will be the same in the future as they were on the average during the period covered by the analysis.

The index of prices of competing canned fruits reflects not only changes in the supplies of canned peaches, canned berries, and canned pineapples from year to year, but in addition it takes into account changes in the supplies of other products which compete with canned fruits and also changes in the buying power of consumers. It would, therefore, be a duplication to include these factors in the analysis after having already used an index which reflects them. For reference purposes, however, the shipments of canned peaches, canned berries, and canned pineapples, and the index of urban consumers' income in the United States are given in Table 2.



TABLE 1

Annual Average F.O.B. Prices of California Canned Apricots  
and Important Factors Affecting them, 1926-27 to 1936-37

Year June through May	F.o.b. price	California canned apricot shipments	Index prices competing canned fruits
	1	2	3
	<u>dollars</u> <u>per case</u>	<u>1,000</u> <u>cases*</u>	<u>per cent</u>
1926-27	3.85	2,847	99
1927-28	3.97	2,409	90
1928-29	3.67	2,789	90
1929-30	3.97	2,988	106
1930-31	3.32	2,597	82
1931-32	2.64	2,037	66
1932-33	2.23	1,997	59
1933-34	2.37	2,572	67
1934-35	3.47	1,714	74
1935-36	2.93	2,547	71
1936-37	2.75	3,515	73 †

\* No. 2 1/2 can basis.

† Preliminary -- subject to revision.

Sources of data:

Col. 1: Compiled from reports by canners. Prices are weighted average prices received by canners, f.o.b. cannery or dock, for all grades and sizes of cans on an unadvertised basis. Regular brokerage, cash discount, swell allowance, label allowance and case allowance are included.

Col. 2: From table 3, col. 4.

Col. 3: From table 4, col. 7.



TABLE 1

Annual Average F.O.B. Prices of California Canned Apples and Important Factors Affecting them, 1926-27 to 1936-37

Year June through May	F.O.B. price	California canned apple shipments	Index prices comparing canned fruits
	1 dollars per case	2 1,000 cases*	3 per cent
1926-27	3.72	2,216	73†
1927-28	3.97	2,547	79
1928-29	3.87	2,408	80
1929-30	3.97	2,789	86
1930-31	3.32	2,988	103
1931-32	3.64	2,597	82
1932-33	3.83	2,037	68
1933-34	3.37	1,997	66
1934-35	3.47	2,273	67
1935-36	3.93	1,714	74
1936-37	3.72	2,547	71

\* No. 2 1/2 can basis.

† Preliminary -- subject to revision.

Sources of data:

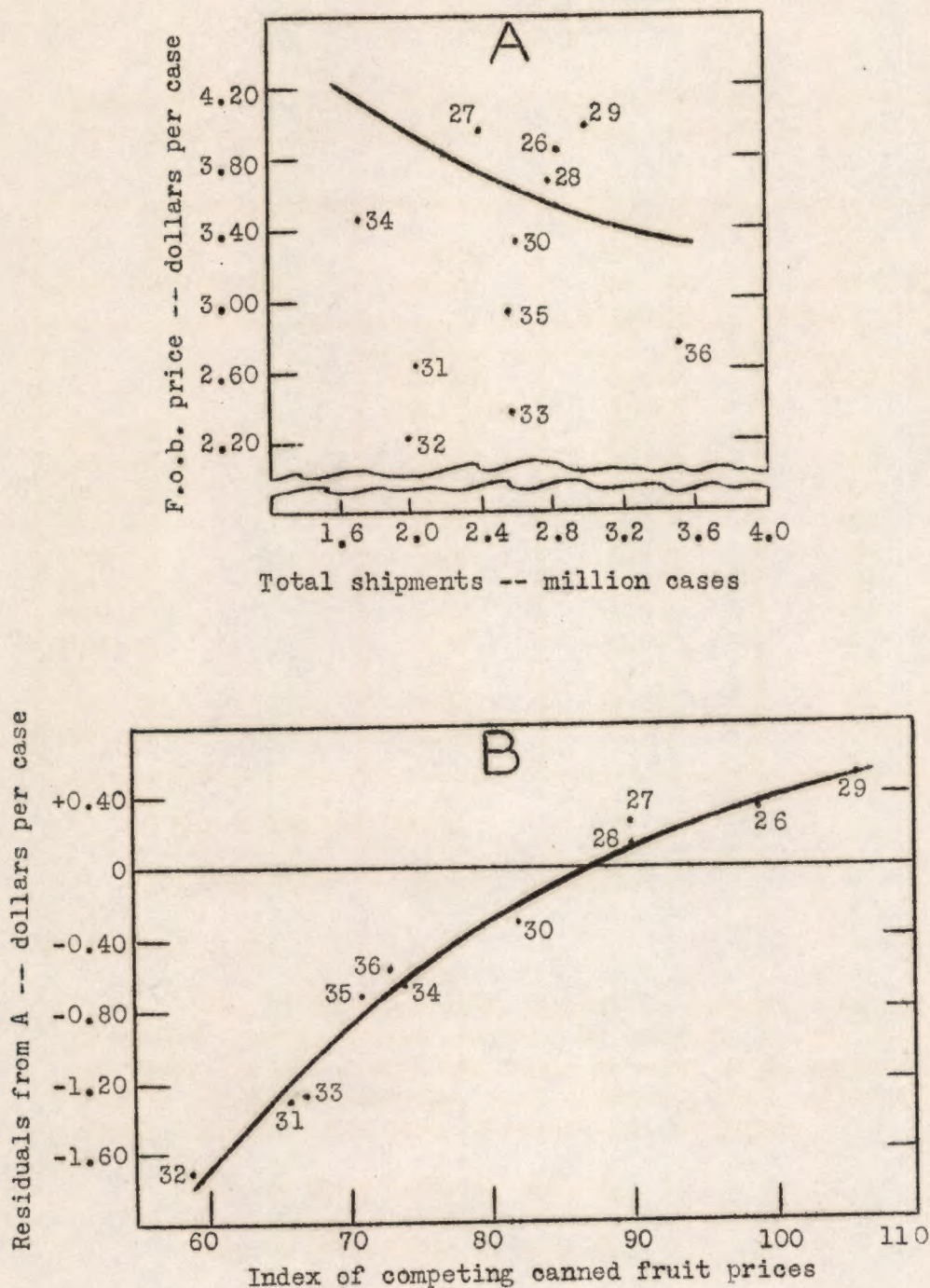
Col. 1: Compiled from reports by canners. Prices are weighted average prices received by canners, F.O.B. country or dock, for all grades and sizes of cans on an undrained basis. Regular brokerage, cash discount, swell allowance, label allowance and case allowance are included.

Col. 2: From table 3, col. 4.

Col. 3: From table 4, col. 7.



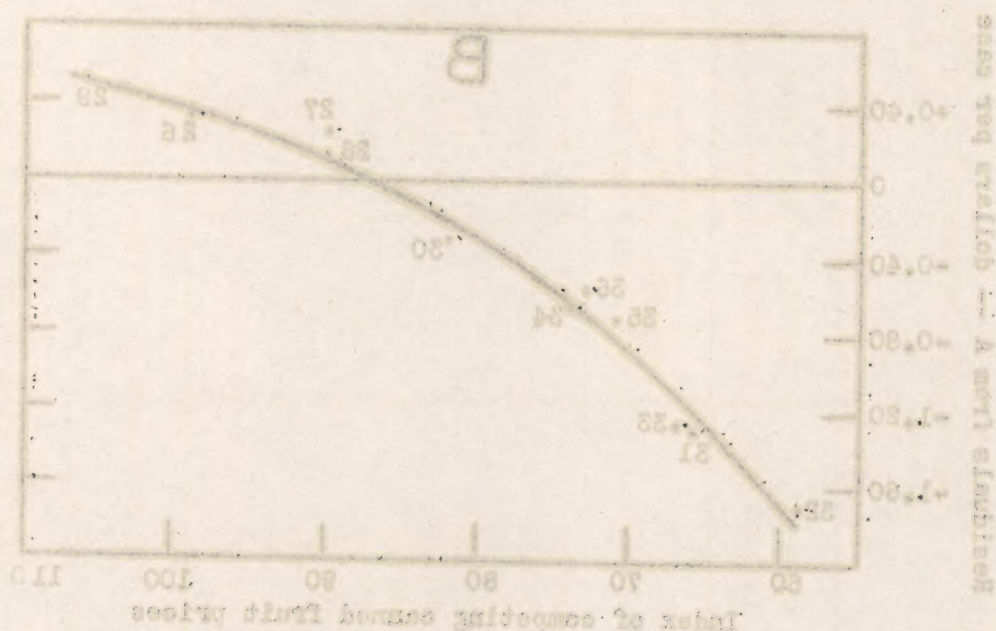
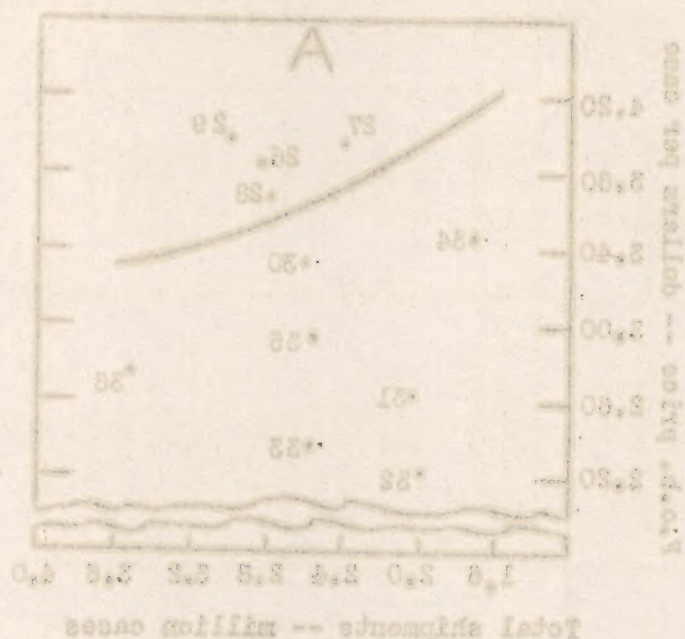
Fig. 1.-- California canned apricots: Average f.o.b. prices received by canners related to (A) shipments of canned apricots, and (B) index of prices of competing canned fruits, 1926-27 to 1936-37.



On the average (A) an increase in total shipments of canned apricots from 2,500,000 cases to 3,000,000 cases has been accompanied by a decrease of 21 cents a case in the average f.o.b. price, and vice versa; and (B) an increase in the index of competing canned fruit prices from 70 to 80 has been accompanied by an increase of 59 cents a case in the average f.o.b. price, and vice versa.



Fig. 1.--California canned apricots: Average f.o.b. prices received by canners related to (A) shipments of canned apricots, and (B) index of prices of competing canned fruits, 1926-27 to 1936-37.



On the average (A) an increase in total shipments of canned apricots from 2,500,000 cases to 3,500,000 cases has been accompanied by a decrease of 21 cents in the average f.o.b. price, and vice versa; and (B) an increase in the index of competing canned fruit prices from 70 to 90 has been accompanied by an increase of 28 cents in the average f.o.b. price, and vice versa.



TABLE 2

Actual and Estimated F.O.B. Prices of California Canned Apricots  
1926-27 to 1936-37

Year June through May	Actual prices.	Prices estimated from fig. 1A	Residuals from fig. 1A	Adjustment for competing fruit prices from fig. 1B	Prices explained by two factors	Col. 1 minus col. 5
	1	2	3	4	5	6
	<u>dollars</u> <u>per case</u>	<u>dollars</u> <u>per case</u>	<u>dollars</u> <u>per case</u>	<u>dollars</u> <u>per case</u>	<u>dollars</u> <u>per case</u>	<u>dollars</u> <u>per case</u>
1926-27	3.85	3.52	+0.33	+0.36	3.88	-0.03
1927-28	3.97	3.72	+0.25	+0.12	3.84	+0.13
1928-29	3.67	3.54	+0.13	+0.12	3.66	+0.01
1929-30	3.97	3.46	+0.51	+0.51	3.97	0
1930-31	3.32	3.62	-0.30	-0.21	3.41	-0.09
1931-32	2.64	3.94	-1.30	-1.19	2.75	-0.11
1932-33	2.23	3.94	-1.71	-1.79	2.15	+0.08
1933-34	2.37	3.64	-1.27	-1.11	2.53	-0.16
1934-35	3.47	4.12	-0.65	-0.63	3.49	-0.02
1935-36	2.93	3.65	-0.72	-0.82	2.83	+0.10
1936-37	2.75	3.32	-0.57	-0.69*	2.63*	+0.12*

\* Preliminary -- subject to revision.

Sources of data:

Col. 1: From table 1, col. 1.

Col. 5: Col. 2 plus col. 4.

Col. 2: Readings from diagonal curve in fig. 1A.

Col. 3: Col. 1 minus col. 2.

Col. 4: Readings from diagonal curve in fig. 1B.



COI\*2: COI\* S 5782 007\* 4\*



TABLE 3

Pack, Carryover, Shipments, and Exports of California Canned Apricots  
1926-27 to 1936-37

Year, June through May	Pack	Carryover from preceding year	Available for shipment	Carryover into following year	Shipments	Exports
	1	2	3	4	5	6
	<u>1,000</u> <u>cases*</u>	<u>1,000</u> <u>cases*</u>	<u>1,000</u> <u>cases*</u>	<u>1,000</u> <u>cases*</u>	<u>1,000</u> <u>cases*</u>	<u>1,000</u> <u>cases*</u>
1926-27	3,227	21	3,248	401	2,847	809
1927-28	2,960	401	3,361	952	2,409	630
1928-29	1,991	952	2,943	154	2,789	594
1929-30	4,023	154	4,177	1,189	2,988	729
1930-31	1,954	1,189	3,143	546	2,597	414
1931-32	2,006	546	2,552	515	2,037	496
1932-33	1,805	515	2,320	323	1,997	476
1933-34	2,416	323	2,739	167	2,572	538
1934-35	1,774	167	1,941	227	1,714	237
1935-36	3,164	227	3,391	844	2,547	596
1936-37	2,899	844	3,743	228	3,515	525†

\* No. 2 1/2 can basis.

† Preliminary -- subject to revision.

Sources of data:

Cols. 1, 2, and 4: Compiled by the Cannery League of California.

Col. 3: Col. 1 plus col. 2.

Col. 5: Col. 3 minus col. 4.

Col. 6: Compiled from Monthly Summary of Foreign Commerce of the United States, converted at 45 pounds per case.



**TABLE 1**  
**RESEARCH, DEVELOPMENT AND TESTING OF DOMESTIC MOTOR VEHICLES**  
**FOR THE YEAR 1964**

Category	1964	1963	1962	1961	1960	1959
Research and Development	1,234,567	1,123,456	1,012,345	901,234	890,123	789,012
Testing	567,890	543,210	521,098	509,876	498,765	487,654
Design	345,678	321,098	298,765	276,543	265,432	254,321
Engineering	234,567	210,987	198,765	187,654	176,543	165,432
Manufacturing	123,456	109,876	98,765	87,654	76,543	65,432
Marketing	45,678	43,210	41,098	39,876	38,765	37,654
Other	12,345	10,987	9,876	8,765	7,654	6,543
Total	2,308,443	2,127,524	2,039,752	1,951,907	1,887,817	1,829,928

1. The data are based on the following definitions:  
 Research and Development - activities that are aimed at the development of new products or the improvement of existing products.  
 Testing - activities that are aimed at the evaluation of the performance of a product or the determination of its reliability.  
 Design - activities that are aimed at the development of the detailed design of a product.  
 Engineering - activities that are aimed at the development of the engineering design of a product.  
 Manufacturing - activities that are aimed at the production of a product.  
 Marketing - activities that are aimed at the promotion and sale of a product.  
 Other - activities that are not included in the above categories.



TABLE 4

Construction of Index of Prices of Canned Fruits Competing  
with Canned Apricots, 1926-27 to 1936-37

Year June through May	Prices			Relatives of prices			Index of competing canned fruit prices
	Canned clingstone peaches	Canned Bartlett pears	Canned pineapples	Canned clingstone peaches	Canned Bartlett pears	Canned pineapples	
	1	2	3	4	5	6	
	<u>dollars</u> <u>per case</u>	<u>dollars</u> <u>per case</u>	<u>dollars</u> <u>per case</u>	<u>1924-29</u> <u>= 100</u>	<u>1924-29</u> <u>= 100</u>	<u>1924-29</u> <u>= 100</u>	<u>1924-29</u> <u>= 100</u>
1926-27	3.66	4.31	2.35	99	90	103	99
1927-28	3.17	4.60	2.10	86	96	92	90
1928-29	3.22	4.13	2.20	87	86	96	90
1929-30	4.08	4.82	2.35	111	101	103	106
1930-31	2.88	3.53	2.10	78	74	92	82
1931-32	2.55	2.82	1.50*	69	59	66	66
1932-33	1.97	2.48	1.60	53	52	70	59
1933-34	2.31	2.64	1.80	63	55	79	67
1934-35	2.69	3.05	1.80	73	64	79	74
1935-36	2.51	2.92	1.80	68	61	79	71
1936-37	2.66	2.94†	1.80	72	61†	79	73†

\* Opening price, \$1.75; account taken of break in prices during season.

† Preliminary estimate -- subject to revision.

#### Sources of data:

Cols. 1 and 2: Compiled from records of canners. Prices are weighted average prices for all grades and sizes of cans, f.o.b. cannery. Canned clingstone peach prices are for California; canned Bartlett pear prices, for Pacific Coast.

Col. 3: Opening prices for no. 2½ Sliced Fancy Pineapple, Hawaii, as given in Western Canner and Packer, 1937 Yearbook, p. 85.

Table continued on next page.







Table 4 continued.

Cols. 4, 5, and 6: Prices given in cols. 1, 2, and 3 in per cent of their 1924-29 averages --  
canned clingstone peaches, \$3.687; canned Bartlett pears, \$4.783; and canned pineapples \$2.292.

Col. 7: Weighted combination of relatives in cols. 4, 5, and 6, using following weights:  
canned clingstone peaches, 8; canned Bartlett pears, 3; and canned pineapples, 6.







TABLE 5

Shipments of Canned Peaches, Canned Pears, and Canned Pineapple, and  
Index of Urban Consumers' Income

Year June through May	Shipments				Index urban consumers' income
	Canned peaches	Canned pears	Canned pineapple	Total of three	
	1	2	3	4	5
	<u>1,000</u> <u>cases</u>	<u>1,000</u> <u>cases</u>	<u>1,000</u> <u>cases</u>	<u>1,000</u> <u>cases</u>	per cent
1926-27	10,727	3,378	7,465	21,570	101.2
1927-28	13,203	2,883	8,603	24,689	101.6
1928-29	12,963	3,998	7,876	24,837	105.8
1929-30	9,572	3,580	7,616	20,768	106.6
1930-31	11,020	4,216	8,994	24,230	94.1
1931-32	7,527	3,672	9,525	20,724	78.0
1932-33	9,922	3,532	6,270	19,724	61.8
1933-34	9,280	4,533	8,327	22,140	67.4
1934-35	9,132	4,518	8,446	22,096	71.7
1935-36	11,030	4,604	9,377	25,011	77.3
1936-37	11,186				88.0*

\* Preliminary -- subject to revision.

#### Sources of data:

Col. 1: Compiled by the Cannery League of California and the Canning Peach Industry Board. Figures are for California only and include both clingstones and freestones on a no. 2½ can basis.

Col. 2: Compiled by the Cannery League of California and the Northwest Cannery Association. Figures are for Pacific Coast Bartlett pears on a no. 2½ can basis.

Col. 3: Compiled from Monthly Summary of Foreign Commerce of the United States, June and December issues. Figures are shipments from Hawaii to the United States for July through June, and were converted at 55 pounds per case.

Col. 4: Total of cols. 1, 2, and 3.

Col. 5: Simple average of the monthly indices of national income, excluding agricultural income. Average 1924-29 = 100, compiled from the U. S. Dept. of Agr., Bur. of Agr. Econ., the Agricultural Situation, current issues.



TABLE 2

Shipments of Canned Peaches, Canned Pears, and Canned Pineapple, and  
Index of Urban Consumers' Income

Index urban consumers' income	Shipments				Year June through May
	Total of three	Canned pineapple	Canned pears	Canned peaches	
1	2	3	4	5	
1936-37	11,186	4,604	3,378	10,787	
1935-36	11,030	4,518	3,353	9,982	
1934-35	9,138	4,518	3,353	8,280	
1933-34	8,280	4,518	3,353	7,827	
1932-33	9,982	4,518	3,353	11,020	
1931-32	7,827	4,518	3,353	8,280	
1930-31	11,020	4,518	3,353	10,787	
1929-30	9,982	4,518	3,353	8,280	
1928-29	10,787	4,518	3,353	10,787	
1927-28	12,203	4,518	3,353	12,203	
1926-27	10,787	4,518	3,353	10,787	
1925-26	10,787	4,518	3,353	10,787	
1924-25	10,787	4,518	3,353	10,787	
1923-24	10,787	4,518	3,353	10,787	
1922-23	10,787	4,518	3,353	10,787	
1921-22	10,787	4,518	3,353	10,787	
1920-21	10,787	4,518	3,353	10,787	
1919-20	10,787	4,518	3,353	10,787	
1918-19	10,787	4,518	3,353	10,787	
1917-18	10,787	4,518	3,353	10,787	
1916-17	10,787	4,518	3,353	10,787	
1915-16	10,787	4,518	3,353	10,787	
1914-15	10,787	4,518	3,353	10,787	
1913-14	10,787	4,518	3,353	10,787	
1912-13	10,787	4,518	3,353	10,787	
1911-12	10,787	4,518	3,353	10,787	
1910-11	10,787	4,518	3,353	10,787	
1909-10	10,787	4,518	3,353	10,787	
1908-09	10,787	4,518	3,353	10,787	
1907-08	10,787	4,518	3,353	10,787	
1906-07	10,787	4,518	3,353	10,787	
1905-06	10,787	4,518	3,353	10,787	
1904-05	10,787	4,518	3,353	10,787	
1903-04	10,787	4,518	3,353	10,787	
1902-03	10,787	4,518	3,353	10,787	
1901-02	10,787	4,518	3,353	10,787	
1900-01	10,787	4,518	3,353	10,787	
1899-00	10,787	4,518	3,353	10,787	
1898-99	10,787	4,518	3,353	10,787	
1897-98	10,787	4,518	3,353	10,787	
1896-97	10,787	4,518	3,353	10,787	
1895-96	10,787	4,518	3,353	10,787	
1894-95	10,787	4,518	3,353	10,787	
1893-94	10,787	4,518	3,353	10,787	
1892-93	10,787	4,518	3,353	10,787	
1891-92	10,787	4,518	3,353	10,787	
1890-91	10,787	4,518	3,353	10,787	
1889-90	10,787	4,518	3,353	10,787	
1888-89	10,787	4,518	3,353	10,787	
1887-88	10,787	4,518	3,353	10,787	
1886-87	10,787	4,518	3,353	10,787	
1885-86	10,787	4,518	3,353	10,787	
1884-85	10,787	4,518	3,353	10,787	
1883-84	10,787	4,518	3,353	10,787	
1882-83	10,787	4,518	3,353	10,787	
1881-82	10,787	4,518	3,353	10,787	
1880-81	10,787	4,518	3,353	10,787	
1879-80	10,787	4,518	3,353	10,787	
1878-79	10,787	4,518	3,353	10,787	
1877-78	10,787	4,518	3,353	10,787	
1876-77	10,787	4,518	3,353	10,787	
1875-76	10,787	4,518	3,353	10,787	
1874-75	10,787	4,518	3,353	10,787	
1873-74	10,787	4,518	3,353	10,787	
1872-73	10,787	4,518	3,353	10,787	
1871-72	10,787	4,518	3,353	10,787	
1870-71	10,787	4,518	3,353	10,787	
1869-70	10,787	4,518	3,353	10,787	
1868-69	10,787	4,518	3,353	10,787	
1867-68	10,787	4,518	3,353	10,787	
1866-67	10,787	4,518	3,353	10,787	
1865-66	10,787	4,518	3,353	10,787	
1864-65	10,787	4,518	3,353	10,787	
1863-64	10,787	4,518	3,353	10,787	
1862-63	10,787	4,518	3,353	10,787	
1861-62	10,787	4,518	3,353	10,787	
1860-61	10,787	4,518	3,353	10,787	
1859-60	10,787	4,518	3,353	10,787	
1858-59	10,787	4,518	3,353	10,787	
1857-58	10,787	4,518	3,353	10,787	
1856-57	10,787	4,518	3,353	10,787	
1855-56	10,787	4,518	3,353	10,787	
1854-55	10,787	4,518	3,353	10,787	
1853-54	10,787	4,518	3,353	10,787	
1852-53	10,787	4,518	3,353	10,787	
1851-52	10,787	4,518	3,353	10,787	
1850-51	10,787	4,518	3,353	10,787	
1849-50	10,787	4,518	3,353	10,787	
1848-49	10,787	4,518	3,353	10,787	
1847-48	10,787	4,518	3,353	10,787	
1846-47	10,787	4,518	3,353	10,787	
1845-46	10,787	4,518	3,353	10,787	
1844-45	10,787	4,518	3,353	10,787	
1843-44	10,787	4,518	3,353	10,787	
1842-43	10,787	4,518	3,353	10,787	
1841-42	10,787	4,518	3,353	10,787	
1840-41	10,787	4,518	3,353	10,787	
1839-40	10,787	4,518	3,353	10,787	
1838-39	10,787	4,518	3,353	10,787	
1837-38	10,787	4,518	3,353	10,787	
1836-37	10,787	4,518	3,353	10,787	

\* Preliminary -- subject to revision.

Sources of data:

Col. 1: Compiled by the Canners League of California and the Canning Peach Industry Board. Figures are for California only and include both clingstones and freestones on a no. 2½ can basis.

Col. 2: Compiled by the Canners League of California and the North-west Canners Association. Figures are for Pacific Coast Bartlett pears on a no. 2½ can basis.

Col. 3: Compiled from Monthly Summary of Foreign Commerce of the United States, June and December issues. Figures are shipments from Hawaii to the United States for July through June, and were converted at 25 pounds per case.

Col. 4: Total of cols. 1, 2, and 3.

Col. 5: Simple average of the monthly indices of National Income, excluding agricultural income. Average 1924-25 = 100, compiled from the U. S. Dept. of Agr., Econ., the Agricultural Situation, current issues.